

## LPIC-1: Linux Administrator

**Course Duration: 48 Hours**

**Course code: 101-500 and 102-500**

### 1. Course Overview

The LPIC-1: Linux Administrator course is a comprehensive program that equips learners with essential skills to manage Linux systems and prepare for the LPIC-1 certification. It begins with mastering the command line and progresses through modules on streams, pipes, redirects, file permissions, and ownership for effective system management. Learners gain expertise in file management, archives, compression, filters, regular expressions, and text editing with Vi, along with process and package management. The course also covers partitions, filesystems, disk quotas, hardware configuration, and the Linux boot process. By the end, Learners are prepared to perform maintenance tasks, manage installations, configure basic networking, and validate their Linux administration skills.

### 2. What you'll learn?

**The LPIC-1: Linux Administrator course offers foundational knowledge for managing Linux systems and prepares for LPIC-1 certification.**

- IT professionals seeking Linux certification
- System administrators aiming to manage Linux servers
- Network administrators interested in Linux networking concepts
- Technical support specialists requiring Linux skills
- DevOps engineers needing Linux command line proficiency
- Software developers targeting Linux environments
- Computer science students specializing in systems management
- Data analysts and scientists using Linux-based tools
- Database administrators working on Linux servers
- IT enthusiasts wanting to learn about Linux administration
- Educational institutions' technical staff maintaining Linux systems
- IT managers overseeing Linux-based infrastructure

### 3. Target Audience

- Aspiring Linux administrators preparing for LPIC-1 certification
- IT professionals and system engineers seeking Linux administration skills
- DevOps engineers requiring Linux expertise

### 4. Pre-Requisites

- Basic computer operation knowledge
- Familiarity with command-line interface fundamentals
- Understanding of networking basics

### 5. Course content

#### **Topic 101: System Architecture**

- 101.1 Determine and configure hardware settings
- 101.2 Boot the system
- 101.3 Change run levels/boot targets and shutdown or reboot system

#### **Topic 102: Linux Installation and Package Management**

- 102.1 Design hard disk layout
- 102.2 Install a boot manager
- 102.3 Manage shared libraries
- 102.4 Use Debian package management
- 102.5 Use RPM and YUM package management
- 102.6 Linux as a virtualisation guest

#### **Topic 103: GNU and Unix Commands**

- 103.1 Work on the command line
- 103.2 Process text streams using filters
- 103.3 Perform basic file management
- 103.4 Use streams, pipes, and redirects
- 103.5 Create, monitor, and kill processes
- 103.6 Modify process execution priorities
- 103.7 Search text files using regular expressions

## 103.8 Basic file editing

### **Topic 104: Devices, Linux Filesystems, Filesystem Hierarchy Standard**

104.1 Create partitions and filesystems

104.2 Maintain the integrity of filesystems

104.3 Control mounting and unmounting of filesystems

104.4 Removed

104.5 Manage file permissions and ownership

104.6 Create and change hard and symbolic links

104.7 Find system files and place files in the correct location

LPIC-1 Exam 102 coverage

### **Topic 105: Shells and Shell Scripting**

105.1 Customise and use the shell environment

105.2 Customise or write simple scripts

### **Topic 106: User Interfaces and Desktops**

106.1 Install and configure X11

106.2 Graphical Desktops

106.3 Accessibility

### **Topic 107: Administrative Tasks**

107.2 Automate system administration tasks by scheduling jobs

107.3 Localisation and internationalisation

### **Topic 108: Essential System Services**

108.1 Maintain system time

108.2 System logging

108.3 Mail Transfer Agent (MTA) basics

108.4 Manage printers and printing

### **Topic 109: Networking Fundamentals**

109.1 Fundamentals of internet protocols

109.2 Persistent network configuration

109.3 Basic network troubleshooting

109.4 Configure client-side DNS

### **Topic 110: Security**

110.1 Perform security administration tasks

110.2 Setup host security

110.3 Securing data with encryption

